

## ENGINEERING EXHIBIT

### Application for Low Power Television Digital Companion Construction Permit

prepared for

#### Access.1 New Jersey License Company

WMGM-LP Atlantic City, NJ

Facility ID 191421

Ch. 10 (digital) 3 kW

*Access.1 New Jersey License Company* (“*Access.1*”) is the licensee of Low Power Television station WMGM-LP, analog Channel 7, Atlantic City, NJ, Facility ID 61109 (BLTVL-19981023JM). *Access.1* proposes herein to construct a digital companion facility on Channel 10.

The proposed facility will employ a new antenna system to be side-mounted on an existing tower structure which is associated with FCC Antenna Structure Registration number 1042989. No change to the overall structure height will result from this proposal.

The proposed facility will operate on Channel 10 as digital at 3 kW effective radiated power using a “full service” out of channel emission mask. The proposed directional antenna is a Jampro model JSL-4V/10. Figure 1 depicts the coverage contour of the proposed facility as well as that of the WMGM-LP licensed analog Channel 7 facility. The service area overlap shown demonstrates compliance with the requirements for a digital companion facility.

Detailed interference study per OET Bulletin 69<sup>1</sup> show that the proposal complies with the Commission’s interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the Commission’s interference limits (0.5 percent to full power and Class A stations,

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<sup>1</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission’s implementation of OET-69 show excellent correlation.

and 2.0 percent to secondary stations) to any facility except with respect to 1.16 percent interference that would be caused to the WHTM-TV Construction Permit facility (“CP” BPCDT-20080620AGL), Ch. 10, Harrisburg, PA. The WHTM-TV CP expired on February 9, 2012 and protection to that facility is no longer necessary.<sup>2</sup> Accordingly, the proposed digital companion LPTV facility complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

The nearest FCC monitoring station is 182 km distant at Laurel, MD. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. There are no authorized AM stations within 3.2 kilometers of the site. The site location is beyond the border areas requiring international coordination.

### **Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission’s OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $2.0 \mu\text{W}/\text{cm}^2$ , which is 1.0 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal’s contribution is less than five percent. The calculated signal density will be even lower when the antenna’s elevation pattern is considered.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC’s guidelines. RF exposure warning signs will be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

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<sup>2</sup> The proposal is predicted to cause 0.44 percent interference to the licensed WHTM-TV facility (BLCDT-20040812AAH) which complies with the FCC’s 0.5 percent limit.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposed transmitting antenna will be side-mounted on an existing antenna support structure which was constructed prior to March 16, 2001. No change in structure height is proposed.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



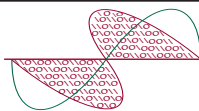
Joseph M. Davis, P.E.  
June 7, 2013

**Chesapeake RF Consultants, LLC**  
207 Old Dominion Road  
Yorktown, VA 23692  
703-650-9600

### List of Attachments

Figure 1	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 346	Saved Version of Engineering Sections from FCC Form at Time of Upload

*This material was entered June 7, 2013 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's account number and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.*



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 1**  
**Coverage Contour Comparison**  
**WMGM-LP Atlantic City, NJ**  
**Facility ID 191421**  
**Ch. 10 (digital) 3 kW**

prepared for  
**Access.1 New Jersey**  
**License Company**

June, 2013

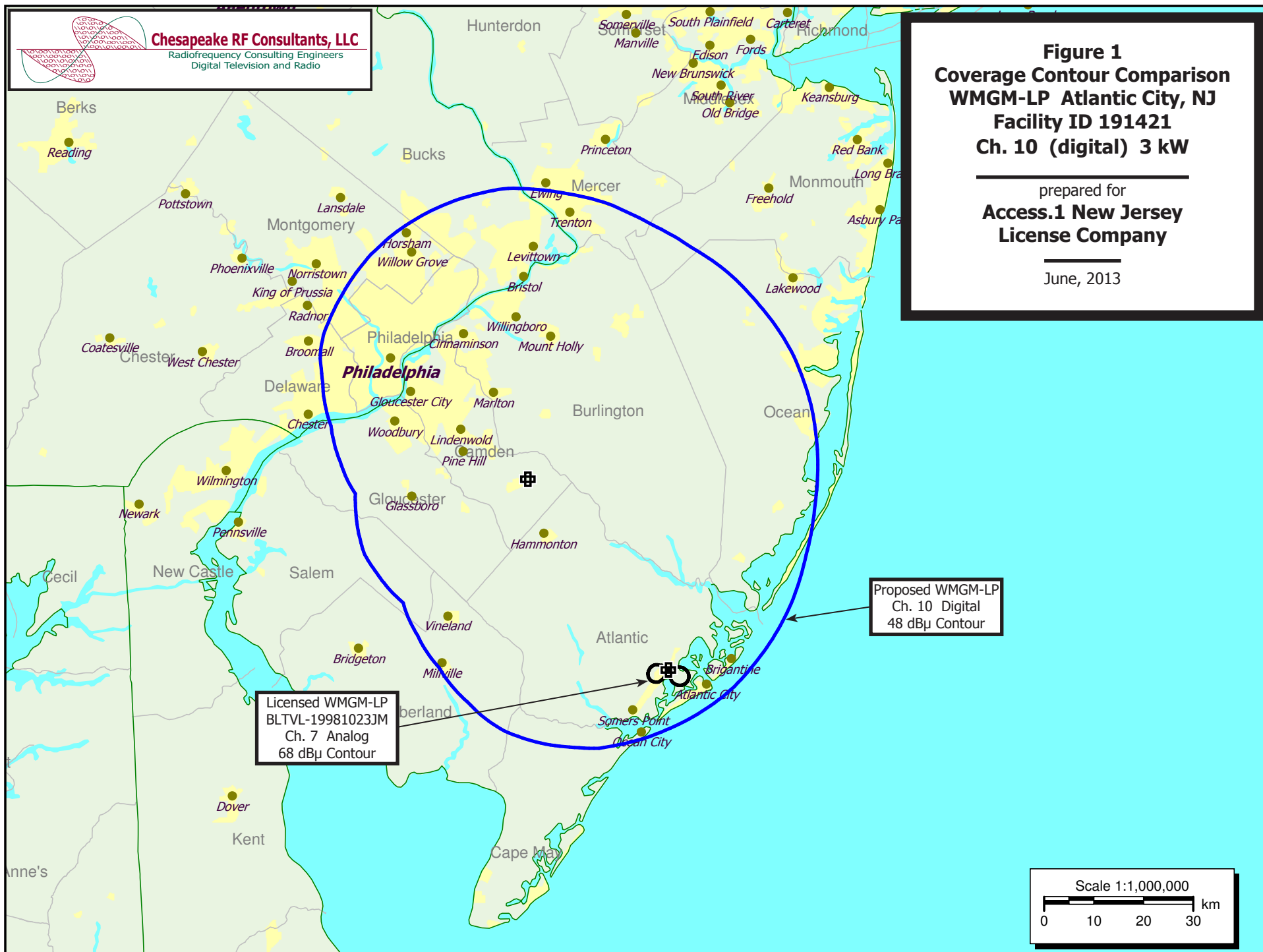


Table 1

**Interference Analysis Results Summary**

prepared for

**Access.1 New Jersey License Company****WMGM-LP Atlantic City, NJ**

WMGM-LP	USERRECORD-01	ATLANTIC CITY	NJ US
Channel 10 ERP 3.	kW HAAT 232. m	RCAMSL 00261 m	FULL SERVICE MASK
Latitude 039-44-04	Longitude 0074-50-28		
Dir Antenna Make usr	Model JAM_FC-VHF	Beam tilt N	Ref Azimuth 65.

		Dist					---Population (2000 Census)---
Ch.	Call	City/State	(km)	Status	Application Ref. No.	Baseline	New Interference
9	WUSA	WASHINGTON DC	211.2	LIC	BLCDDT-20110314ACQ	---	none
9	WWPS-LP	KINNELON NJ	138.4	CP	BDFCDVL-20090507ABP	---	none
9	WWPS-LP	KINNELON NJ	139.0	APP	BPDVL-20090602AAP	---	none
9	WYXN-LD	NEW YORK NY	135.9	CP	BDISDVL-20091125AAH	---	none
9	W09CU-D	PORT JERVIS NY	168.9	CP MOD	BMPDVL-20080211AEO	---	none
9	WBPH-TV	BETHLEHEM PA	105.4	CP MOD	BMPCDT-20110330AAN	8,601,484	27,705 (0.32%)
9	WBPH-TV	BETHLEHEM PA	105.4	LIC	BLCDDT-20100907AAF	8,601,484	27,705 (0.32%)
9	WBPH-TV	BETHLEHEM PA	105.4	APP	BPCDDT-20110518ADP	9,074,877	30,210 (0.33%)
9	WWPS-LP	HAWLEY PA	162.2	APP	BDISTVL-20081119AOJ	---	none
9	WWPS-LP	HAWLEY PA	162.2	LIC	BLTVL-20090311AAM	---	none
9	WWPS-LP	HAWLEY PA	146.1	CP	BDFCDVL-20090324ABQ	---	none
10	DWHTX-LP	HARTFORD CT	290.1	LIC	BLTVL-19950228IL	---	none
10	WTNH	NEW HAVEN CT	246.3	LIC	BLCDDT-20040701AEC	6,033,862	2,163 (0.04%)
10	WWDP	NORWELL MA	407.1	LIC	BLCDDT-20090227ABX	---	none
10	WWDP	NORWELL MA	407.1	CP MOD	BMPCDDT-20080620AIP	---	none
10	WBPN-LP	MORRIS NY	274.2	LIC	BLTVL-20000824ADL	---	none
10	WNXY-LD	NEW YORK NY	135.9	CP	BDISDVL-20101004ACS	4,046,444	0 (0.00%)
10	W10DC-D	PORT JERVIS NY	168.9	CP	BDCCDVL-20110629CCM	107,512	0 (0.00%)
10	W10CY-D	PORT JERVIS NY	168.9	CP MOD	BMPDVL-20080221ACJ	107,512	0 (0.00%)
10	WHTM-TV	HARRISBURG PA	190.8	CP	BPCDDT-20080620AGL	2,571,009	29,811 (1.16%) *
10	WHTM-TV	HARRISBURG PA	190.8	LIC	BLCDDT-20040812AAH	2,112,157	9,339 (0.44%)
10	W10CP-D	TOWANDA PA	256.8	LIC	BLDTV-20090806AAV	---	none
10	WTTD-LD	HAMPTON VA	328.2	LIC	BLDVL-20110104AAF	---	none
10	WAZT-CA	WOODSTOCK VA	320.1	LIC	BLTVA-20030718ADF	---	none
11	WBAL-TV	BALTIMORE MD	161.4	LIC	BLCDDT-20111102ACP	---	none
11	WNDC-LP	SALISBURY MD	159.1	LIC	BLTVL-20070601ABM	---	none
11	WPIX	NEW YORK NY	134.0	LIC	BLCDDT-20090911ABN	---	none
11	WPIX	NEW YORK NY	129.4	APP	BMPCDDT-20080620ALB	19,292,621	0 (0.00%)
11	W36DO-D	DARBY PA	48.0	CP	BDISDVL-20130208ABA	2,630,454	2,832 (0.11%)
11	WBRE-TV	WILKES-BARRE PA	183.1	LIC	BLCDDT-20051123AJX	---	none

\* 1.16 percent interference to WHTM-TV Construction Permit BPCDDT-20080620AGL should be disregarded. The CP expired on 02/09/2012.

Section III - Engineering (Digital)																																																																																																											
<b>TECHNICAL SPECIFICATIONS</b> Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.																																																																																																											
<b>TECH BOX</b>																																																																																																											
1.	Channel: 10																																																																																																										
2.	Translator Input Channel No. :																																																																																																										
3.	Primary station proposed to be rebroadcast: <table border="1"><tr><td>Facility Identifier</td><td>Call Sign</td><td>City</td><td>State</td><td>Channel</td></tr></table>											Facility Identifier	Call Sign	City	State	Channel																																																																																											
Facility Identifier	Call Sign	City	State	Channel																																																																																																							
4.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 39 Minutes 44 Seconds 04 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 74 Minutes 50 Seconds 28 <input checked="" type="radio"/> West <input type="radio"/> East																																																																																																										
5.	Antenna Structure Registration Number: 1042989 <input type="checkbox"/> Not Applicable [Exhibit 11] <input type="checkbox"/> Notification filed with FAA																																																																																																										
6.	Antenna Location Site Elevation Above Mean Sea Level: 35.9 meters																																																																																																										
7.	Overall Tower Height Above Ground Level: 284 meters																																																																																																										
8.	Height of Radiation Center Above Ground Level: 225.1 meters																																																																																																										
9.	Maximum Effective Radiated Power (ERP): 3 kW																																																																																																										
10.	Transmitter Output Power: 0.8 kW																																																																																																										
11.	a. Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under <a href="http://licensing.fcc.gov/prod/cdbbs/pubacc/prod/cdbbs_pa.htm">CDBS Public Access</a> (http://licensing.fcc.gov/prod/cdbbs/pubacc/prod/cdbbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search. <input type="radio"/> Nondirectional <input type="radio"/> Directional Off-the Shelf <input checked="" type="radio"/> Directional composite  Manufacturer JAM Model JSL-4V/10  b. Electrical Beam Tilt: degrees <input checked="" type="checkbox"/> Not Applicable  c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable  d. Directional Antenna Relative Field Values: <input type="checkbox"/> N/A (Nondirectional or Off-the-Shelf) Rotation (Degrees): 65 <input type="checkbox"/> No Rotation <table border="1"><thead><tr><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th></tr></thead><tbody><tr><td>0</td><td>1</td><td>10</td><td>.99</td><td>20</td><td>0.96</td><td>30</td><td>0.92</td><td>40</td><td>0.92</td><td>50</td><td>0.96</td></tr><tr><td>60</td><td>0.98</td><td>70</td><td>1.0</td><td>80</td><td>0.97</td><td>90</td><td>0.92</td><td>100</td><td>0.85</td><td>110</td><td>0.72</td></tr><tr><td>120</td><td>0.6</td><td>130</td><td>0.44</td><td>140</td><td>0.32</td><td>150</td><td>0.25</td><td>160</td><td>0.2</td><td>170</td><td>0.21</td></tr><tr><td>180</td><td>0.22</td><td>190</td><td>0.21</td><td>200</td><td>0.2</td><td>210</td><td>0.25</td><td>220</td><td>0.32</td><td>230</td><td>0.44</td></tr><tr><td>240</td><td>0.6</td><td>250</td><td>0.72</td><td>260</td><td>0.85</td><td>270</td><td>0.92</td><td>280</td><td>0.97</td><td>290</td><td>1.0</td></tr><tr><td>300</td><td>0.98</td><td>310</td><td>0.96</td><td>320</td><td>0.92</td><td>330</td><td>0.92</td><td>340</td><td>0.96</td><td>350</td><td>0.99</td></tr><tr><td colspan="2">Additional Azimuths</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? <input type="radio"/> Yes <input checked="" type="radio"/> No <div style="text-align: right;">[Exhibit 12]</div> If Yes, attach an Exhibit (see instructions for details).											Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	0	1	10	.99	20	0.96	30	0.92	40	0.92	50	0.96	60	0.98	70	1.0	80	0.97	90	0.92	100	0.85	110	0.72	120	0.6	130	0.44	140	0.32	150	0.25	160	0.2	170	0.21	180	0.22	190	0.21	200	0.2	210	0.25	220	0.32	230	0.44	240	0.6	250	0.72	260	0.85	270	0.92	280	0.97	290	1.0	300	0.98	310	0.96	320	0.92	330	0.92	340	0.96	350	0.99	Additional Azimuths											
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<b>Relative Field Polar Plot</b>																																																																																																											
<b>NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.</b>																																																																																																											
12.	Out-of-channel Emission Mask: <input type="radio"/> Simple <input type="radio"/> Stringent <input checked="" type="radio"/> Full Service																																																																																																										
<b>CERTIFICATION</b>																																																																																																											
13.	Interference : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. <input checked="" type="radio"/> Yes <input type="radio"/> No <div style="text-align: right;">See Explanation in [Exhibit 13]</div>																																																																																																										

14.	<b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an <b>Exhibit is required.</b>  By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 14]
15.	<b>Channels 52-59.</b> If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:  <input type="checkbox"/> The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.  <input type="checkbox"/> Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.	
16.	<b>Channels 60-69.</b> If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:  <input type="checkbox"/> Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.  <input type="checkbox"/> Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.  <input type="checkbox"/> Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.	
<b>PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.</b>		

### SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

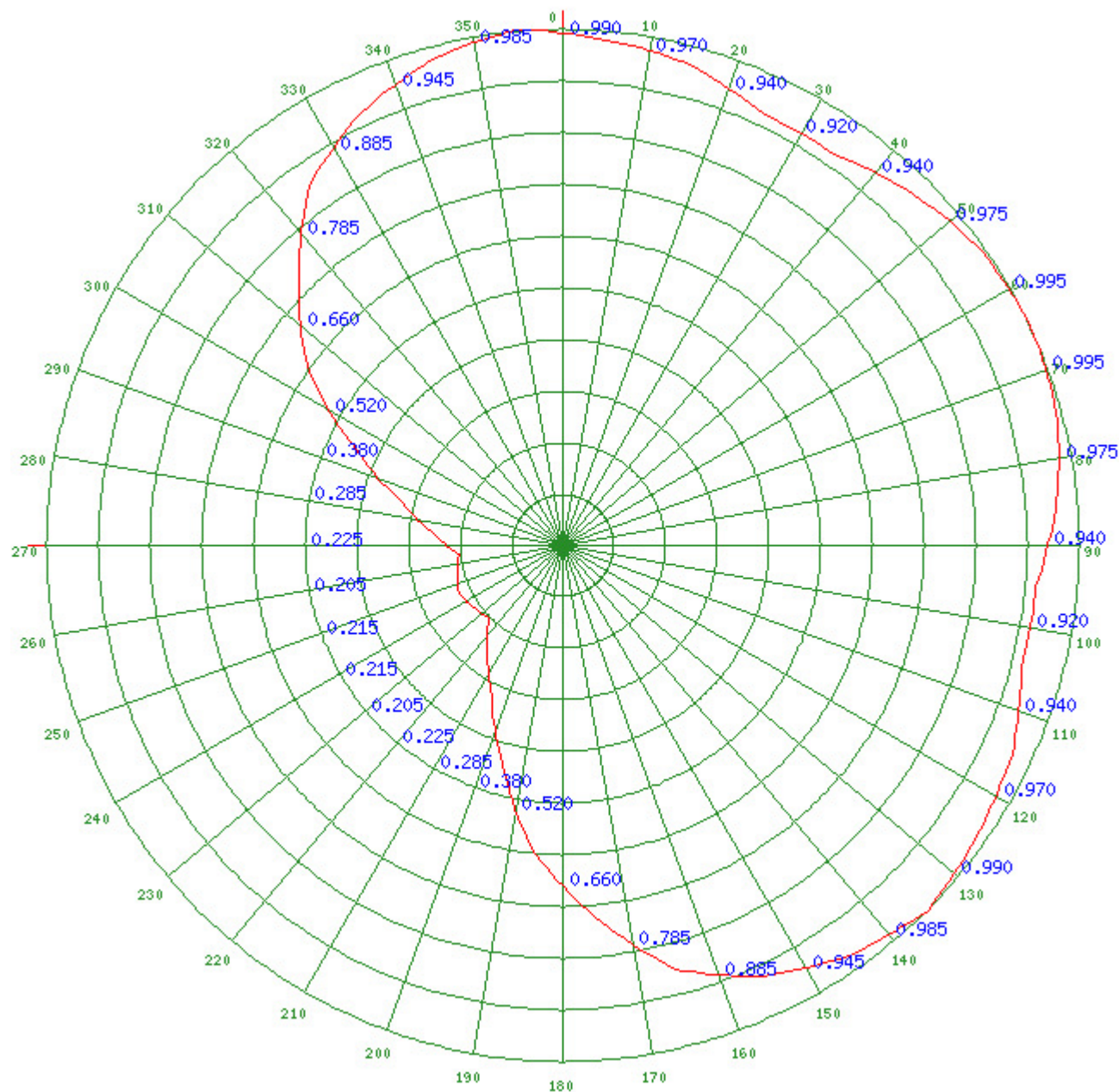
Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 06/07/2013	
Mailing Address CHESAPEAKE RF CONSULTANTS LLC 207 OLD DOMINION ROAD			
City YORKTOWN	State or Country (if foreign address) VA		Zip Code 23692 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM		



Any specified rotation has already been applied to the plotted pattern.

Field strength values shown on a rotated pattern may differ from the listed values because intermediate azimuths are interpolated between entered azimuths.

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